

U.S. ARMY INSTITUTE OF SURGICAL RESEARCH / BROOKE ARMY MEDICAL CENTER

VIVARIUM OCCUPATIONAL HEALTH POLICY

A. Introduction: The U.S. Army Institute of Surgical Research (USAISR) and the Brooke Army Medical Center (BAMC) are required by the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC-I) accreditation standards, federal law, Army Regulations (AR), and the Occupational Safety and Health Administration (OSHA) to provide Occupational Health Services (OHS) as part of an Occupational Health and Safety Program (OHSP) to assist in protecting employees from risk of animal associated diseases and hazards in the workplace. The National Research Council's Guide for the Care and Use of Laboratory Animals states: "An occupational health and safety program must be part of the overall animal care and use program." The Code of Federal Regulations Title 10 (part 20) and Title 29 (part 1910) requires an occupational safety program sufficiently strong to protect workers from substantial risk. This guidance establishes the role of BAMC OHS as part of the overall USAISR/BAMC OHSP.

The USAISR/BAMC vivarium OHSP is intended to provide guidelines for assisting in establishing a healthy workplace for all individuals who are involved in the care and use of research animals.

B. Regulatory Guidance:

1. DoD 6055.5M; Occupational Medical Surveillance Manual, May 1998
2. DoD Instruction 6055.1; DoD Occupational Safety and Health Program, August 19, 1998
3. DA PAM 40-11, Preventive Medicine, July 2005
4. AR 40-5, Preventive Medicine, July 2005
5. AR 40-501, Standards of Medical Fitness, June 2006
6. Memorandum, Office of the Surgeon General, DASG-PPM-SA, 17 May 2003, Subject, Army Latent Tuberculosis Infection (LTBI) Surveillance and Control Program and Change, 1 Dec 2003
7. Occupational Health and Safety in the Care and Use of Research Animals, National Research Council, National Academy Press, Washington, DC, 1997
8. Guide for the Care and Use of Laboratory Animals, National Research Council, 1996

C. Responsibilities:

1. The Institutional Official (IO) has ultimate responsibility for ensuring the implementation of the vivarium OHSP and this policy. All administrative procedures; facility design and operation; education and training; equipment performance; emergency procedures; program evaluation; and exposure control methods, to include administrative controls, work

practices, engineering controls, personal protective equipment (PPE), and substitution methods are the responsibility of the IO.

2. The BAMC OHS, Department of Preventive Medicine, is responsible for implementing the OHSP.

3. The Institutional Animal Care and Use Committee (IACUC) is responsible for ensuring that an OHSP is part of the overall animal care and use program.

4. Directors, Task Area Managers (TAMS), Department Heads, Principal Investigators, and all other managers and supervisors, are responsible for compliance with this policy as it relates to operations under their control in carrying out their day-to-day responsibilities.

5. All personnel assigned, attached or employed by USAISR/BAMC are responsible for adherence to this policy in carrying out their day-to-day responsibilities.

D. Enrollment:

1. Enrollment in the OHSP is mandatory for all personnel assigned, attached or employed by USAISR/BAMC who have a specific need for vivarium access. This includes, but is not limited to, the following individuals: veterinary staff, investigators, technicians, researchers, IACUC members, contractors, students, summer/temporary hires, and facility maintenance/housekeeping personnel.

2. All personnel requiring vivarium access will be referred to the BAMC OHS for an initial employment health consultation/risk assessment when in-processing or when vivarium access becomes necessary to perform job assignments after in-processing. The OHS risk assessment will be determined by the individual medical evaluation and potential for exposure to hazards in the workplace. To schedule an appointment, contact BAMC OHS at 210-916-6897 or 210-295-2437.

3. Enrollment in the OHSP, and completion of required occupational health and safety training (except job-specific), must occur prior to individuals being granted vivarium access. Request for access should be directed to the vivarium facility manager.

4. OHSP participants will be assigned an exposure category by their supervisor (see attached "Vivarium Workplace Occupational Health and Safety Risk Assessment Form"). OHS will provide appropriate services and recommendations determined by assigned exposure category, other workplace exposures/duties, and the results of a medical evaluation (see Occupational Health Services below). Employees must notify the OHS health care provider if any changes to workplace exposures/duties occur.

5. Upon completion of all required medical services and documentation thereof, OHS will grant medical clearance, with or without limitations, as appropriate. OHS may recommend that an employee be restricted from working with certain species of animals or within certain areas of

the vivarium. OHS will provide the ISR Regulatory Compliance and Quality (RCQ) administrator with written notification of medical clearance.

6. The RCQ administrator will update the credentialing database and notify the animal facility manager of the recommendations made by OHS for each individual. Once notified, the facility manager will provide vivarium access as appropriate.

7. The animal research protocol coordinator will verify individual enrollment and credentialing requirements for all research personnel at the time an animal-use protocol is submitted for review. Protocols will not be submitted to the IACUC for review until all outstanding requirements have been met and documentation has been provided.

8. Any person not otherwise authorized to enter the animal facility as part of their specific position or job responsibilities, and visitors or research collaborators from other organizations, must report to the facility manager to request access to the animal facility. All unauthorized personnel or visitors must be accompanied at all times while in the animal facility. Research collaborators from other organizations who will be handling animals must provide occupational health clearance from their organization. All visitors will be required to review and sign an occupational health agreement and wear appropriate PPE.

E. Occupational Health Services:

The following table will be used to determine immunization and tuberculosis screening requirements for entry into the vivarium.

EXPOSURE CATEGORY	TYPE OF EXPOSURE	TB SCREENING	TETANUS	RABIES	HEPATITIS B*
1	Need for vivarium access with no direct animal contact		X		
2	Rodents, Rabbits		X		
3	Swine, Sheep, Goats	X	X	X	

* Hepatitis B is required only for personnel with direct human subject/patient or human tissue contact.

1. Active-duty military and DoD civilian employees, in addition to receiving initial employment health consultation by OHS, will be provided required medical services which may include lab tests, tuberculosis screening, respirator fit testing, and immunizations.

2. Contract personnel will be provided an initial employment health consultation and respirator fit testing by BAMC OHS. They will be provided with a list of required medical services and immunizations to take to their private healthcare provider or to the healthcare provider specified in their employment contract. Upon completion of medical services/immunizations, individual contractors are responsible for providing their contract agent with all pertinent documentation. In turn, the contract agent is responsible for providing this information to BAMC OHS.

3. Civilian and contract personnel have the option to decline any medical services required by OHS, including immunizations. However, OHS reserves the right to recommend restriction of an individual's employment duty if any medical services are declined.

F. Injuries:

1. All employees are required to report all injuries to their immediate supervisor, however minor, as soon as possible after occurrence. Examples of specific injuries include animal bites, needle-stick or sharps injuries, and falls.

2. Active duty military, in the event of injury, will report to the BAMC Department of Emergency Medicine, the Troop Medical Clinic, or the Family Medicine Clinic for medical evaluation and treatment. The individual's immediate supervisor is responsible for completing BAMC Form 889, Incident Report Form.

3. Civilian employees, in the event of injury, will take the following actions:

a) Seek immediate medical attention from the BAMC Department of Emergency Medicine or their healthcare provider of choice.

b) Complete, with supervisor assistance if needed, the Office of Workers Compensation Program (OWCP) Form CA-1, Notice of Traumatic Injury, which describes the circumstances of the injury, and BAMC Form 889, Incident Report Form. This form shall be completed within 24 hours of the injury. The supervisor will complete Form CA-16, Authorization for Examination and Treatment, after validating the on-the-job injury.

c) Provide the Emergency Room physician, or personal healthcare provider, with completed Forms CA-1 and CA-16. Copies of these forms go to the OHS, the Federal Employees Compensation Act (FECA) program manager, and CPAC (currently in building 144).

d) Contact BAMC OHS at 210-916-6897 or 210-295-2437 if an injury requires subsequent visits and/or further coordination of care.

4. Contract employees, in the event of injury, will take the following actions:

a) Seek immediate medical attention from the BAMC Department of Emergency Medicine (with escort) or their healthcare provider of choice for emergency treatment.

b) Identify him/herself as a contractor and inform the BAMC Emergency Department personnel of an "on-the-job injury" and that medical services rendered will be paid for by either his/her contracting agency or him/herself. The emergency room will provide a packet to complete. The accident report form will need to be completed and forwarded to the contracting agency (employer) within 24 hours of the accident. For non-BAMC emergency care, the contract employee should follow established contractor agency protocols.

- c) Elect the services of a civilian healthcare provider for non-emergency injuries.

G. OHS Program Training Requirements:

1. OHS training must be completed prior to being granted vivarium access. Requirements may be completed by accessing online training modules located at <http://hazel.forest.net/latanet/client/isr/introduction.htm>. Upon completion of the modules, documentation will automatically be provided to the RCQ administrator (via auto e-mail notification). For access to the online training website, see the animal facility manager or the ISR Regulatory Compliance and Quality (RCQ) administrator for a username and password. Training modules will also be available in hard copy for those individuals without computer access.

2. In addition to the above training requirements, species-specific and /or job-specific training may also need to be completed prior to beginning work duties or research activities. Contact the animal facility manager for additional training requirements.

H. Hazards in the Workplace: The general hazards associated with the care and use of animals can be divided into five broad categories:

1. Bites and Scratches – The potential for receiving a bite or scratch is an ever-present hazard that faces all employees working directly with laboratory animals. In addition, handling of cages, pens and other equipment may also result in cuts or scratches. Cuts, bites and scratches may potentially expose individuals to viral, bacterial, parasitic or allergic agents, some which may be transmissible from animals to humans. Employees should be properly trained in handling and general restraint techniques of the species with which they are working. Additionally, all staff should be familiar with first aid procedures and the location of first aid kits within the vivarium. Although the risk of bites and scratches is species dependent, there are a few simple guidelines, which, if followed, will significantly reduce the potential risks of such incidents. These include the following:

- a) Always wear appropriate PPE, especially hand and face protection.
- b) If moving large contaminated items, such as transport cages, wear heavy gloves and steel-toed work shoes.
- c) When available and appropriate, use mechanical restraint devices, such as Panepinto slings, when performing procedures on unanesthetized animals.
- d) Do not discard or disinfect any object which may have caused the injury. The object should be held for analysis.
- e) In the event of an incident, supervisors, or the vivarium facility manager, will be notified and medical attention will be sought immediately.

2. Allergens – One of the most common health concerns in the laboratory animal setting is a work-associated allergy. The risk of developing an allergy depends on parameters such as

species, facility, ventilation and the employee's "base-line" health status. An estimated 10% of laboratory workers eventually develop occupationally-related asthma and up to 73% of persons with pre-existing allergic disease eventually develop allergy to laboratory animals. Allergens may affect anyone working within the vivarium, even those who do not have direct contact with animals.

Workers exposed to laboratory animals can be categorized into four overlapping risk groups:

- Normal – no evidence of allergic disease
- Atopic – pre-existing allergic disease
- Asymptomatic – IgE antibodies to animal allergens
- Symptomatic – clinical symptoms on exposure to allergenic animal proteins

Symptoms of allergies are variable depending on the severity of the individual's reaction and include the following:

- Contact urticaria with symptoms such as redness, itchiness of skin, welts and hives.
- Allergic conjunctivitis with symptoms such as sneezing, itchiness, clear nasal drainage, and nasal congestion.
- Allergic rhinitis with symptoms such as sneezing, itchiness, clear nasal drainage, and nasal congestion.
- Asthma with symptoms such as coughing, wheezing, tightness of the chest, and shortness of breath.
- Anaphylaxis, which may be life-threatening, with symptoms such as generalized itching, hives, tightness of the throat, swelling of the eyes and/or lips, difficulty swallowing, hoarseness, shortness of breath, dizziness, fainting, nausea, vomiting, abdominal cramps, and diarrhea.

Additional information regarding allergies in the workplace may be obtained from the vivarium staff including the facility manager, veterinarians, and the vivarium NCOIC.

3. Protocol Related Hazards – Protocol-related hazards are defined as those specifically associated with either routine operational or experiment-specific protocols. Some general hazards also associated with protocols, such as the risk of fire in the use of Bunsen burners or torches, or electrical hazards in the use of experiment-specific equipment, are not included in this category. Protocol-related hazards are protocol-specific (infectious agents, toxins, chemicals, flammable substances, etc.)

Successful abatement of protocol-related hazards requires identification and description of the hazards prior to the start of the experimental procedures. Such hazards should be identified by the principal investigator and listed in their research proposal under section VII. Biohazards / Safety. In addition, a description of safety precautions and programs designed to protect personnel should also be included along with any surveillance procedures used to monitor potential exposures. Additional information regarding protocol-related hazards may

be obtained from the vivarium staff including the facility manager, veterinarians, and the vivarium NCOIC.

4. Zoonoses – Zoonotic diseases are those that can be transmitted from animals to humans. Although there are a variety of zoonotic agents that staff working in the vivarium should be aware of, it is more likely for a person to injure or contaminate him/herself from an experimental mishap rather than contract a disease from an animal. Additional information regarding zoonotic diseases may be obtained from the vivarium staff including the facility manager, veterinarians, and the vivarium NCOIC.

5. Inherent Hazards – There are some potential hazards inherent in any work environment. These include poor ergonomics, slips and falls, electrical safety hazards, etc. Occupationally-related job-specific training must be completed and documented prior to beginning work duties or research activities.

I. General Safety Precautions: There are some basic safety precautions that apply to all work environments regardless of the types of hazards that may be potentially encountered:

1. Read and understand the protocol-related procedures before starting experiments. If necessary, perform a dry run.

2. Avoid using sharps whenever possible; substitute manually operated pipettes for needles and syringes, and cannulae for needles.

3. Do not recap needles. Dispose of sharps in appropriate sharps containers.

4. Use safety needles and sharps devices.

5. Wash hands routinely and keep hands away from the face. Use of instant hand sanitizer, located throughout the vivarium, is highly recommended.

6. Do not eat, drink, use tobacco products, take or apply medicine, store human food, handle contact lenses or apply cosmetics in animal facilities and laboratories. Do wash your hands before engaging in these activities. Mouth pipetting is prohibited.

7. Wearing lab coats or scrubs and shoe covers is required when working in the vivarium. Additional PPE, such as gloves and surgical masks, or dust-mask respirators (Type N-95), may also be required when working with animals.

8. Read and understand special safety precautions for each work area or animal species.

9. Follow all safety precautions prescribed, know the location of MSDS books, eyewash stations, first-aid kits, fire extinguishers, emergency exit routes and the vivarium emergency response and disaster plan.

10. Clean all spills immediately according to established vivarium standard operating procedures.

11. Dispose of all potentially hazardous waste and materials according to established vivarium standard operating procedures.

12. Personnel who become pregnant are encouraged to inform their supervisors as soon as possible and arrange a consultation with the OHS.

13. Report all incidents or equipment malfunctions to your supervisor or facility manager as soon as possible after occurrence.

J. Personal Protective Equipment:

1. Wear protective clothing in the animal facility and laboratory. In addition to lab coats or coveralls, some areas of the facility may require additional protective clothing such as shoe coverings, gloves and surgical masks.

2. Do not wear soiled protective clothing outside of the laboratory or animal facility. Do not launder soiled protective clothing at home. All soiled nondisposable clothing must be institutionally laundered.

3. Protective latex or nitrile gloves, as recommended by the OHS, and fluid resistant (surgical) masks will be worn when cleaning animal cages, feeding animals, or when handling infected animals or contaminated surfaces or equipment .

4. Fluid resistant (surgical) masks will be worn when using the pressure washer to sanitize animal rooms and caging. Fluid resistant masks may also be worn by any individual concerned with exposure to allergens. Compliance with BAMC Memo 385-5, Respiratory Protection Program will be monitored through routine workplace observation.

5. Hearing protection will be worn at all times in areas that have been identified as having a noise hazard.

6. Utility uniforms, scrubs, or lab coats will be worn, as appropriate, at all times when working within animal areas. If outer garments are contaminated, they will be turned in for washing as soon as possible.

7. Rubber protective boots or shoes will be worn at all times when washing or sanitizing animal caging. Leather protective boots may be worn in the dry animal rooms during normal daily operations. Open-toed shoes may not be worn.

8. All personnel will wash their hands with disinfectant soap as soon as possible following procedures which could have possibly resulted in exposure to microbial or chemical contaminants.

9. There will be no smoking, eating, or drinking in any animal areas, treatment rooms or laboratory facilities.

10. Any accidents, injuries, or unsafe conditions will be immediately reported to the employee's respective supervisor, the facility manager, staff veterinarians, or the institutional safety officer immediately.

VIVARUM WORKPLACE OCCUPATIONAL HEALTH AND SAFETY RISK ASSESSMENT FORM

Employee: Please complete form as indicated and bring it, a copy of your job description, and your health/immunization records to the BAMC Occupational Health Service.

SECTION A – To Be Completed By Employee					
Last Name:		First Name:		Middle Initial:	
Grade/Rank:		<input type="checkbox"/> Male <input type="checkbox"/> Female		SSN:	
Status: <input type="checkbox"/> Military <input type="checkbox"/> Fed Civilian <input type="checkbox"/> Consultant <input type="checkbox"/> Contractor (Company _____) <input type="checkbox"/> Student (School _____)					
Department:				Division:	
Building:		Room:		Phone:	
SECTION B – To Be Completed By Supervisor					
TOXICOLOGIC HAZARDS		Number of times potentially exposed per:			
BIOLOGICAL		Day	Week	Month	Year
Microorganism/Toxin	BSL				
1.					
2.					
3.					
Blood-borne Pathogens (BBP):					
CHEMICAL					
1. Formaldehyde / Formalin					
2. Xylene					
3. Anesthetic gases					
4. Detergents / Disinfectants					
5.					
6.					
RADIATION (check all that apply)					
1. <input type="checkbox"/> CT Scanner <input type="checkbox"/> Fluoroscopy <input type="checkbox"/> X-rays					
2. Lasers Class: <input type="checkbox"/> 1 <input type="checkbox"/> 2a <input type="checkbox"/> 2b <input type="checkbox"/> 3 <input type="checkbox"/> 4					
PHYSICAL HAZARDS					
1. Noise (dBA)					
2. Temperature extremes					
3. Humidity extremes					
4. Dust / Animal Bedding					
5. Medical instruments/machinery/sharps					
		ANIMAL CATEGORY			
ANIMAL HANDLING HAZARDS		1 - Vivarium Access (no animal contact)	2 – Rabbits/rodents	3* – Swine, sheep, goats	
1. Handle Tissue or Serum					
2. Handle Dead Animals					
3. Minimal Handling (observe/transfer)					
4. Restraint for (Inoculations/Manipulations)					
5. Assist/Perform Surgery/Necropsy					
*GME trainees participating in training workshops are exempt from rabies vaccine					
PERSONAL PROTECTIVE EQUIPMENT USED: <input type="checkbox"/> Lab Coat <input type="checkbox"/> Face Shield <input type="checkbox"/> Eye Protection <input type="checkbox"/> Gloves <input type="checkbox"/> Surgical Mask <input type="checkbox"/> Apron <input type="checkbox"/> Respirator <input type="checkbox"/> Hearing Protection <input type="checkbox"/> Other: _____					
SECTION C – To Be Completed in Occupational Clinic By Employee					
MEDICAL CONDITIONS AND PAST MEDICAL HISTORY					
Allergies: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure If YES or UNSURE, provide details below:					
Latex: <input type="checkbox"/> Yes <input type="checkbox"/> No Reaction: _____		Animal(s) – list: _____ Reactions: _____		Other: _____	
Other medical conditions: <input type="checkbox"/> Eczema <input type="checkbox"/> Asthma <input type="checkbox"/> Immune disease <input type="checkbox"/> Transplant <input type="checkbox"/> Immunosuppressant/steroid use <input type="checkbox"/> _____				If female, are you pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No	
SECTION D					
I certify the above employee received/will receive proper worksite specific training for hazards to which he/she may be occupationally exposed.					
Supervisor		Printed Name:		Phone:	
		Signature:		Date:	
Employee		Signature:		Date:	
SECTION E					
Referred to BAMC or Civilian Provider	Occupational Health Provider Name	Occupational Health Provider Signature		Date	